

REMARKS

As a preliminary matter, Applicant's representative would like to thank Examiner Williams for courtesies extended in the productive personal interview conducted on January 11, 2005. An Examiner's Interview Summary Record (PTOL-413) was mailed by the Examiner on January 13, 2005.

Applicant submits this Statement to comply with the requirements of M.P.E.P. § 713.04. In the interview, the following was discussed:

A. Identification of claims discussed:

Claims 1-3 and 7-21 (all of the claims presently pending in the application).

B. Identification of prior art discussed:

Yamanaka (U.S. Publication No. 2003/0013280), Washio et al. (U.S. Patent No. 6,600,178), and Ito et al. (U.S. Patent No. 6,770,519).

C. Conduct of the Interview:

Applicant's representative discussed the Amendment under 37 C.F.R. § 1.111 filed on January 6, 2005.

With respect to the claim rejection under 35 U.S.C. § 112, second paragraph, and the objections to the specification and drawings, Applicant's representative discussed the changes to the Title of the Invention, the proposed new drawing Figure 6, and the corresponding amendments to the specification, as set forth in the Amendment filed on January 6, 2005.

With respect to the prior art rejections, Applicant's representative discussed the novel and unobvious features of the claimed invention, which define "*a film including a polycrystalline metal*". Applicant's representative also discussed the proposed

amendments and proposed new claims, which were added in the January 6, 2005

Amendment and which further define the features of the claimed invention.

Applicant's representative explained that the prior art references Yamanaka, Washio, and Ito do not disclose or suggest the claimed "*film including a polycrystalline metal*" as defined by independent claim 1. Instead, each of these references merely discloses a single crystalline silicon thin-film or the like.

The Examiner stated that further description of the claimed "*polycrystalline metal*" would be needed to define more clearly this distinction over the cited references.

Therefore, to define more clearly the features of the invention, Applicant's representative proposed incorporating the additional feature (e.g., "*wherein said polycrystalline metal comprises a transition metal*") into independent claims 1, 11, and 19 and also discussed the additional features defined by new claims 7-23, as submitted in the January 6, 2005 Amendment.

The Examiner kindly indicated that the additional feature described above appears to define more clearly the features of the present invention, and thus, appears to more clearly distinguish the present invention from the cited references, but that further consideration would be needed to determine the patentability of the claims.

D. Examiner Requested New Drawings:

The Examiner also stated that new/revised drawings would be needed to clearly show each of the additional features of the claimed invention including "*a film including a polycrystalline metal*", as defined by claims 1- 3 and 7-23, to avoid another rejection under 35 U.S.C. § 112 and to facilitate a more relevant search of the prior art.

Particularly, the Examiner took the position that the drawings do not adequately show that:

- (a) the polycrystalline metal includes a fiber structure in which crystal planes of crystal grains are oriented (e.g., oriented crystal planes of crystal grains) (as defined by claims 2 and 12) or that the polycrystalline metal includes a fiber structure including oriented crystal faces including closed packed planes (as defined by claims 10, 15, and 20)(e.g., see specification at page 5, lines 10-12);
- (b) the polycrystalline metal includes a fiber structure in which a crystal grain boundary density decreases such that a quantity of defects in the metal/semiconductor boundary decreases (as defined by claims 7, 11, and 19) (e.g., see specification at page 5, lines 18-21);
- (c) a percentage of oriented crystal grains occupying said fiber structure is increased to provide an increase an orientation force of the metal film (as defined by claims 8 and 14) or that the fiber structure includes a predetermined percentage of oriented crystal grains to provide a predetermined orientation force of the metal film (as defined by claim 9) (e.g., see specification at page 5, lines 5-10);
- (d) the polycrystalline metal includes large crystal grains (as defined by claim 3) or a predetermined large size (as defined by claims 13 and 21) or that a degree of said crystal grains of the predetermined large size is no less than a thickness of the polycrystalline metal film (as defined by claim 18) (e.g., see specification at page 12, lines 5-7); and
- (e) the polycrystalline metal includes a transition metal (as defined by claims 1, 11, and 19) or that the polycrystalline metal includes one of platinum (Pt), nickel (Ni), palladium (Pd), chromium (Cr), and iron (Fe) (as defined by claims 17, 22, and 23) (e.g., see specification at page 12, lines 1-5).

The Examiner kindly agreed that new drawings which clearly show these aspects of the invention, as originally disclosed in the application, would be entered and would not raise issues of new matter.

The Examiner stated that he would revise his search based on the further description of the claimed "polycrystalline metal" and the new drawings submitted by Applicants.


The Examiner also indicated that he would be on extended leave from the PTO until the end of February and that he would not be working on this case until he returns to the PTO. Therefore, the Examiner requested that the Supplemental Amendment be filed by around February 28, 2005 for his consideration upon his return to the PTO.

E. Conclusion:

It is believed that no petition or fee is required. However, if the USPTO deems otherwise, the Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

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